2002/03 Manitoba Bovine Tuberculosis Management Program

Implementation Plan

October 25, 2002

APPROVAL MEMORANDUM

Date: August 7, 2002

SUBJECT: Approval of the 2002/03 Manitoba Bovine Tuberculosis Management Program – Implementation Plan

ORIGINATOR: The Task Group for Bovine Tuberculosis

Manitoba Conservation
Manitoba Agriculture and Food
Parks Canada
Canadian Food Inspection Agency

APPROVAL:

Agency	Approval Signature	Date
Manitoba Conservation:	Jack Dubois, Director Wildlife and Ecosystem Protection Branch	29 Oct. 02
Manitoba Agriculture and Food:	Dr. Allan Preston, Director Veterinary Services Branch	Aug. 26/02
Parks Canada:	for Greg Fenton, Superintendent Riding Mountain National Park	Sept 03/02
Canadian Food Inspection Agency:	Dr. George Luterbach, Chief Veterinarian Animal Health and Production - West Canadian Food Inspection Agency	Oct 25/02

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2002/03 Manitoba Bovine Tuberculosis Management Program

Implementation Plan

Prepared by: The Task Group for Bovine Tuberculosis

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In consultation with:

The Manitoba Cattle Producers Association
Manitoba Wildlife Federation

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EXECUTIVE SUMMARY

Bovine Tuberculosis is a contagious disease caused by bacteria. It affects cattle, bison, deer, elk, and other species, including humans. Symptoms include lesions of the lung and bone.

Since 1991, the infection has been detected on three separate occasions in a total of eight cattle herds in the Rossburn and Grandview areas, 10 elk from the Rossburn, Grandview and Onanole areas and one white-tailed deer north of Oakburn.

In 1986, Manitoba was given certified Bovine TB free status, but currently the province is rated as TB accredited and will only regain full Bovine TB free status after a prescribed period of no infections in cattle.

The incidence of Bovine TB in free-ranging big game in the Riding Mountain area is very low.

The Canadian Food Inspection Agency (CFIA), Manitoba Conservation (MC), Manitoba Agriculture and Food (MA&F), and Parks Canada (RMNP) formed a Task Group for Bovine TB, composed of staff from each agency. An Action Plan was developed in 2000, outlining a five-year TB management strategy and Implementation Plans are developed annually.

AGENCY -	CFIA	RMNP	MA&F	MC
Responsibility	Surveillance and control of reportable diseases; liaison with USDA.	Maintaining the ecological integrity of the national park.	Maintaining the sustainability of the livestock industry.	Managing wildlife on a sustainable and ecosystem basis.
iding ountain Area B Program ctivities	· Ongoing and special program testing of domestic herds, · Analysis of tissue samples, · Elimination of disease from infected domestic herds.	· Cervid management within the park, · Cervid population surveys, · Lab. operations · Communication and awareness, · Elk ecological research.	· Vet. Lab. operations · Barrier fencing to reduce cattle/ cervid interactions, · Liaison with Manitoba Crop Insurance Agency, · Liaison with CFIA on testing protocols and zoning.	· Disease surveillance in cervids, · Barrier fencing to reduce cattle/ cervid interactions, · DNA analysis of TB positive elk, · Participation in ecological research.

In 2001/02, Treasury Board (Manitoba) approved funding of $100.5 and $98.5 each year during the five-year term of the program (2001/02 to 2005/06) to accommodate MC's and MA&F's share of the program. Funding exists within the budgets of the other partners (RMNP - $120.0; CFIA - $472.0).

The vision is to eradicate bovine TB from the Riding Mountain region ecosystem. The long-term goals are to achieve and maintain Bovine TB-free status in domestic cattle; to eradicate Bovine TB in wildlife that may pose a risk to agriculture, and; to minimize wildlife-livestock interactions in the Riding Mountain region, and to minimize unnatural cervid herding behaviour

which occurs where cervids feed on agricultural produce, thereby minimizing the potential for disease transmission.

The main components of the cooperative disease management program are:

- Disease monitoring in deer and elk – Samples from hunters are analyzed by CFIA.
- Elk population monitoring and management – Population surveys are conducted and hunting strategies are intended to reduce the elk population from 3500 to about 2500. The population reduction will be targeted along the western boundary of the park where the disease has been detected.
- Barrier (hay protection) fencing – materials for over 30 10-foot fenced enclosures will be supplied to landowners and constructed this year (2002/03) to stop wild elk and deer from feeding at hay storage and cattle feeding sites.
- Field research – the movements of 40 elk that were radio-collared in February 2002, are being monitored within the park and along the boundary to understand cervid/cattle interactions.
- Questionnaires and contact with area agricultural producers – to determine if certain changes to farming practices will prevent disease spread.
- Testing of other species (ground squirrels) - to see if they have the disease.
- Disease monitoring in cattle – CFIA is testing cattle herds around the park for TB.
- Zoning – MA&F and CFIA are investigating the need for a zone around the park for special disease containment initiatives, to protect export markets of livestock.
- Regulations - Stricter regulations and enforcement will be introduced this fall, to stop the baiting of elk and deer by hunters, and to stop area residents from feeding elk and deer. This is intended to reduce the concentration of cervids and stop disease spread.

Contact between cattle and wild elk is a major factor that contributes to the transmission of the disease. This contact occurs primarily at hay storage sites, illegal baiting by hunters and areas where winter feeding of elk and deer occurs. For this reason, barrier fencing and strict regulations prohibiting the use of feed for cervids is a priority.

Detailed budget on Page 14.

INTRODUCTION

Bovine Tuberculosis (Bovine TB) is a contagious, infectious, and communicable disease caused by *Mycobacterium bovis*. It affects cattle, bison, deer, elk, goats, and other species, including humans. Bovine TB in infected animals and humans manifests itself in lesions of the lungs, bones, and other body parts, causes weight loss and general debilitation, and can be fatal.

Since 1991, the infection has been detected on three separate occasions in a total of eight cattle herds in the Rossburn and Grandview areas, 10 elk from the Rossburn, Grandview and Onanole areas and one white-tailed deer north of Oakburn.

In 1986, Manitoba was given certified Bovine TB free status, but currently the province is rated as TB accredited. Under current legislation, Manitoba would regain TB free status once no new cases of Bovine TB has been detected for a period of five years from the last case in domestic livestock. However, the Canadian Food Inspection Agency is currently amending regulations under *The Health of Animals Act* to allow for harmonization with the (United States Department of Agriculture (USDA) TB rating system.

The Canadian Food Inspection Agency (CFIA), Manitoba Agriculture and Food (MA&F), Parks Canada (RMNP) and Manitoba Conservation (MC) are the management authorities responsible for addressing the issue of Bovine TB in domestic livestock and wildlife as set forth in various Acts.

AGENCY -	CFIA	RMNP	MA&F	MC
Responsibility	Surveillance and control of reportable diseases; liaison with USDA.	Maintaining the ecological integrity of the national park.	Maintaining the sustainability of the livestock industry.	Managing wildlife on a sustainable and ecosystem basis.
iding Mountain rea TB anagement ctivities	· Ongoing and special program testing of domestic herds, · Analysis of tissue samples, · Elimination of disease from infected domestic herds.	· Cervid management within the park, · Cervid population surveys, · Lab. operations · Communication and awareness, · Elk ecological research.	· Vet. Lab. operations · Barrier fencing to reduce cattle/ cervid interactions, · Liaison with Manitoba Crop Insurance Agency, · Liaison with CFIA on testing protocols and zoning.	· Disease surveillance in cervids, · Barrier fencing to reduce cattle/ cervid interactions, · DNA analysis of TB positive elk, · Participation in ecological research.

The Manitoba Cattle Producers Association has clearly indicated its support, in principle, for a comprehensive Bovine TB management program. Similarly, Riding Mountain area residents, the Manitoba Wildlife Federation, the Manitoba Lodges and Outfitters Association, and the Manitoba Chapter of Canadian Parks and Wilderness Society have indicated support.

Based on the *Action Plan for Bovine TB Management in Manitoba* completed in September 2000, MC and MA&F requested annual operating funding of $100.5 and $98.5, respectively, for a five-year Bovine TB Management Program (2001/02 to 2005/06). These funding levels were approved in November 2001. Similarly, funding is being allotted to RMNP and the CFIA on an annual basis.

Situation Assessment

There appears to be a low prevalence of Bovine TB in the Riding Mountain elk population; the highest levels have been detected in the western portion of the Riding Mountain region (Grandview-Rossburn area). There is no documentation that Bovine TB can sustain itself in wild cervid populations with densities as low a those in the Riding Mountain region. There must be additional contributing circumstances. A possible, but unlikely reason that Bovine TB appears irregularly in Riding Mountain area elk and deer, is occasional contact with an unidentified persistent vector of the disease. However, a more likely explanation for the perpetuation of the disease in the Riding Mountain area is the transmission of disease where elk and deer congregate at hay storage, supplemental feeding, intercept feeding, and illegal deer and elk baiting sites.

Cattle and cervids may contract the disease when infected saliva is transferred directly from one animal to another, or indirectly when an animal feeds on infected feed. The probability of disease transmittal between elk, between deer, between elk and deer, and between cattle, elk and deer is greatly increased when cervids are concentrated. These concentrations have been occurring around the Riding Mountain to an ever-increasing degree over the past two decades mainly as a result of the changing farming practices. Grain production and square bales have given way to alfalfa production and round bales. Unlike square bales, round bales can be left in the field with limited depletion of hay quality. Round bales left in the field provide cervids with an attractive food source and an ideal setting for disease transmission.

For these reasons, the Bovine TB Management Program will direct a large proportion of its funding and effort toward reducing concentrations of elk and deer at these feeding sites. Manitoba Conservation will also take steps to further restrict cervid baiting and feeding, thereby further reducing concentrations of elk and deer.

Implementation Plan Outline

The Bovine TB Management Program has four major components with activities under each.

1. Disease Surveillance
   - Surveillance of cervids – Riding and Duck Mountains
   - Hunter recognition
   - Riding Mountain lab operation
   - Manitoba Vet. Lab operation
   - CFIA analysis of wildlife samples
   - Livestock inventory
   - CFIA testing of cattle herds

2. Disease Prevention
   - Elk and deer population management
   - Public education
   - Barrier (hay protection) fence construction
   - Regulation of cervid feeding and baiting

3. Research
   - Elk population monitoring
   - Elk ecology study
   - Factors affecting cervid/cattle interaction
   - Surveillance of other species for TB
   - Relationship of infected elk – DNA analysis

4. Disease Control
   - Tagging and tracing of cattle

Vision

The vision is to eradicate bovine TB from the Riding Mountain region ecosystem.

Long-term Goals

- To achieve and maintain Bovine TB-free status in domestic cattle,
- To eradicate Bovine TB in wildlife that may pose a risk to agriculture,
- To minimize wildlife-livestock interactions in the Riding Mountain region, and to minimize unnatural cervid herding behaviour which occurs where cervids feed on agricultural produce, thereby minimizing the potential for disease transmission.

Objectives

1. To eradicate Bovine TB infections in domestic livestock according to the Canadian Food Inspection Agency protocols.
2. To reduce interactions between cattle and elk-deer to a minimum by constructing barrier (hay protection) fences in areas where Bovine TB has been detected, and more specifically, where there is high contact between cattle and elk-deer.
3. To identify Manitoba Conservation management practices which should be altered to reduce interactions between cattle and elk-deer – This will include enacting stricter regulations concerning: a) the use of bait by hunters for elk and deer, and b) the placement of feed for elk and deer.
4. To identify Parks Canada management practices which should be altered to reduce the interactions between cattle and deer-elk – This will include an natural forage renewal resulting from an enhanced controlled burning program within the national park.
5. To provide accurate information to area landowners and other stakeholders to help them understand the biology of the disease and to learn about ways to reduce disease transmission.

6. To maintain the Riding Mountain regional elk population at approximately 2500 (the lower end of the historical range which is 2500 to 5000), which is substantially below the historical average population level of approximately 3500. Population reduction will be focused in areas where repeat positive instances of Bovine TB have been detected.
7. To collect samples mainly from hunter-killed elk and deer from the Riding Mountain and Duck Mountain areas for analysis, and to determine the areas where the disease exists and its prevalence rate.
8. To undertake field studies to collect information about: elk movements; elk use of private land that supports cattle operations; elk use of national park lands; the locations and level of interactions between cattle and elk; and if elk move from areas where the disease is known to exist to other areas, such as the Duck Mountain or eastern side of the park, where the disease has not been reported.
9. To determine locations of cattle operations and the number of cattle along the Riding Mountain periphery.
10. To analyze data concerning elk-deer use of the landscape and cattle/elk-deer interactions with the intent of developing recommendations concerning elk management and agricultural practices – the goal being to reduce the occurrence and transmission of Bovine TB.
11. To determine if the individual elk that have been infected are genetically related (ie. from the same family groups) – this will provide an indication of whether the disease is localized or more widespread.
12. To identify farming practices associated with the presence of elk and deer – altering landowner practices may reduce cattle/elk interactions.

Spending projections for Manitoba Conservation ($100.5) and Manitoba Agriculture and Food ($98.5), the projected funding for Parks Canada ($120.0) and the Canadian Food Inspection Agency ($472.0) are shown on the spreadsheet. Minmum total program expenditures are expected to amount to $791.0. Each program activity is listed on the spreadsheet and a project outline has been prepared and is attached.

Additional Issues

Several issues have been identified that are not within the scope of the Task Team for Bovine Tuberculosis. However, they are recognized as areas that may require attention by the appropriate agency.

1. **Additional Costs to Producers**

   Livestock producers may assume significant costs when TB management initiatives are applied. For example::

   - there are costs when cattle are tested for TB by CFIA.
   - there are costs when cattle are quarantined as a result of a positive skin test.
   - if the area around Riding Mountain is zoned as a means of disease containment - there will be costs due to special testing requirements; as a result of testing requirements, producers may not be able to take advantage of temporary peaks in the market; and cattle prices within the zone may be depressed.

Livestock producers in the Riding Mountain area have asked that some source of compensation be available to offset these additional costs.

2. **Potential Risk of Disease Transmission to Wild Cervids on Quarantined Facilities**

TB suspect cattle are removed expediently for destruction and laboratory sampling for confirmation. There may be other herd mates that are refractory to the test and the contaminated environment that remain as a potential risk to wildlife including wild cervids. The confirmatory culture is usually 12 - 16 weeks. Once the herd has been confirmed as infected the current policy is to remove and destroy the entire herd. The quarantine requires the isolation of the suspect infected herd from all other farmed herds of susceptible livestock.

3. **Elk Farms May be an Attraction to Wild Elk**

Six elk farms are situated within 5 miles of the Riding Mountain National Park boundary. The transmission of Bovine TB can occur at hay storage sites. Barrier fencing around stored hay will reduce incidents of disease transmission on both cattle ranches and captive elk farms. However, wild elk are also attracted to elk farms particularly during the breeding season. During this period, the opportunity for direct contact between wild elk and captive elk is possible through nose to nose contact. This is also a means of disease transmission. Suitable measures to reduce this type of contact should be investigated, and promoted, where possible.

4. **Landowner who are Outfitters**

Many landowners who raise cattle are also licenced outfitters providing services to elk and deer hunters. Some outfitters place hay and other substances to attract cervids for hunting purposes. These activities concentrate elk and deer and increase the potential for disease transmission. Concerns may subsequently be raised by the same individuals that their cattle herds may be infected by wildlife.

5. **Zoning**

In response to recurring findings of bovine TB in wildlife and domestic cattle in the RMNP area, and changes to the TB control program in the United States, the USDA has reviewed the import requirements for movement of cattle from Canada into the USA. The review has resulted in the reinstatement of a TB test requirement for export of breeding cattle to the USA unless appropriate eradication areas and movement restrictions are put in place to address the risk of bovine TB around RMNP. Currently the Canadian Health of Animals regulations provide that the province is recognized as being the smallest eradication area for disease control purposes. With the application of movement permits, TB testing, and surveillance in Manitoba the USDA has limit the requirements noted above to Manitoba cattle only. The Canadian regulations, however, are in the process of being amended to permit the area of Manitoba surrounding RMNP

to be designated the control area/zone for TB. The control area/zone around the park would be declared a TB accredited advanced area and this would result in additional costs for the livestock producers within the area.

For cattle, bison, and elk producers within the area, there would be a requirement for movement permits in order to transport animals out of the zone. In addition, breeding animals would either have to be tested out or originate from a TB accredited herd. All animals moving out of the zone would require official identification. Normally these extra costs for marketing livestock are the responsibility of the producer or exporter. Cost sharing with the different levels of government and industry is being considered.

CFIA will also be enhancing the area surveillance testing for the next several years and this will result in increased costs to producers in respect to handling and mustering their livestock.

Projected Expenditures by Activity

Bovine TB - 2002/03 Program Plan Budget

Project	Agency Contribution				Total Project Budget
	Manitoba Conservation	Manitoba Agriculture and Food	Parks Canada	Canadian Food Inspection Agency	
Disease Surveillance					
Surveillance of Cervids					
Riding and Duck Mountains	30.0				30.0
Hunter Recognition	3.5				3.5
Riding Mountain Lab Operation		10.0	12.0		22.0
Manitoba Vet Lab Analysis		5.0			5.0
CFIA Analysis of Wild Animal Samples				72.0	72.0
Livestock Locations and Inventory				50.0	50.0
CFIA Testing of Cattle Herds				350.0	350.0
Disease Prevention					
Elk and Deer Population Management	Existing				nil
Public Education	5.5	2.5	10.0		18.0
Barrier (Hay Protection) Fence Constr.	30.0	60.0			90.0
Regulation of Cervid Feeding and Baiting	Existing				
Research					
Elk Population Monitoring		2.5	Existing		2.5
Elk Ecological Study	25.0	2.5	98.0		125.5
Factors Affecting Cervid-Cattle Interaction		5.0			5.0
Surveillance of Other Species for TB	6.0	3.5			9.5
Relationship of Infected Elk - DNA Anlysis	0.5				0.5
Disease Control					
Tagging and Tracing Cattle		7.5			7.5
Totals**	100.5	98.5	120.0	472.0	791.0

** There are additional annual expenditures for developing and and providing administrative support for a Riding Mountain disease control zone (Page 13) and funding in the amount of $65.0 provided by the Canadian Animal Identification Agency for the Tagging and Tracing Program complement the program.

Bovine TB - 2002/03 Program Plan Budget

Project	Agency Contribution				Total Project Budget
	Manitoba Conservation	Manitoba Agriculture and Food	Parks Canada	Canadian Food Inspection Agency	
Disease Surveillance					
Surveillance of Cervids					
Riding and Duck Mountains	30.0				30.0
Hunter Recognition	3.5				3.5
Riding Mountain Lab Operation		10.0	12.0		22.0
Manitoba Vet Lab Analysis		5.0			5.0
CFIA Analysis of Wild Animal Samples				72.0	72.0
Livestock Locations and Inventory				50.0	50.0
CFIA Testing of Cattle Herds				350.0	350.0
Disease Prevention					
Elk and Deer Population Management	Existing				nil
Public Education	5.5	2.5	10.0		18.0
Barrier (Hay Protection) Fence Constr.	30.0	60.0			90.0
Regulation of Cervid Feeding and Baiting	Existing				
Research					
Elk Population Monitoring		2.5	Existing		2.5
Elk Ecological Study	25.0	2.5	98.0		125.5
Factors Affecting Cervid-Cattle Interaction		5.0			5.0
Surveillance of Other Species for TB	6.0	3.5			9.5
Relationship of Infected Elk - DNA Anlysis	0.5				0.5
Disease Control					
Tagging and Tracing Cattle		7.5			7.5
Totals**	100.5	98.5	120.0	472.0	791.0

** There are additional annual expenditures for developing and and providing administrative support for a Riding Mountain disease control zone (Page 13) and funding in the amount of $65.0 provided by the Canadian Animal Identification Agency for the Tagging and Tracing Program complement the program.

DISEASE SURVEILLANCE

2002/03 Bovine TB Implementation Plan

Project Name: Surveillance of Cervids - Riding and Duck Mountains			
Approved Budget: $ 30.0	Partner Share:	Manitoba Conservation	$ 30.0
		Manitoba Agriculture and Food	$
		Parks Canada	$
		Canadian Food Inspection Agency	$
Project Managers: Dan Chranowski - Manitoba Conservation Pat Rousseau - Parks Canada			

Objectives:

1. To collect samples from all hunter-killed elk and a prescribed sample of hunter-killed deer from Game Hunting Areas (GHAs) 23/23A and 18 - 18C.
2. To collect samples from any elk and deer found dead in GHAs 23/23A, Riding Mountain National Park and GHAs 18 - 18C.
3. To submit the samples for processing and analysis to determine if any samples are infected.
4. To provide hunters province-wide with information about Bovine TB in cervids so that hunters will recognize the disease and report the infection to Manitoba Conservation.

Rationale:

1. This will provide information on the incidence and prevalence of the disease in wild cervid populations.
2. This will provide information regarding changes in the prevalence and locations of the disease.

Methods and Activities:

1. The submission of samples from elk and deer taken by licenced hunters will be mandatory.
2. The intent is to collect samples from ALL elk harvested in the program area.
3. The estimated deer population that is available to hunters in GHAs 23 and 23A is 8,000. An attempt will be made to collect 600 deer samples, approximately

150 from each of four zones around the Riding Mountain National Park. This sample size will be sufficient to detect a disease prevalence rate of <2%. The zones will be: a) McCreary south and west to HWY 10, b) HWY 10 west to PR 264, c) PR 264 north and east to HWY 10, and c) HWY 10 east and south to McCreary.

4. The samples to be collected shall include the head (as a minimum), and upper neck and lungs (when possible).
5. The program will commence in August when the archery deer and elk seasons and the landowner elk season occur, and end when the last rifle elk season closes in January.
6. Licenced resident hunters and First Nations shall be contacted by letter and in some instances community meetings advising of the program will be arranged.
7. Program details will be described in the annual Hunting Guide, notices shall be posted at Licence Vendors, and ads shall be placed in selected local newspapers.
8. Letters will be sent to taxidermists to advise that samples are required from any elk and deer heads they are mounting.
9. To ensure an adequate number of samples from deer, enforcement check stops will be established at two or more locations in the program area during the deer hunting season when hunter numbers are highest.
10. Sample collection depots shall be at Manitoba Conservation district offices and Parks Canada warden stations. Samples may also be picked up at taxidermists, as required.
11. Samples shall include the following information: Species, sex of animal, hunter's name, address, telephone number, date of kill, and the legal land description of the kill.
12. Freezers shall be procured to store samples at sample collection depots. A walk-in freezer shall be installed at Riding Mountain to store samples during the warmer fall period.
13. Tissues shall be kept as fresh as possible, by asking hunters to submit samples soon as possible after the kill, and by keeping the samples cold (not frozen if possible). Samples should be delivered to the Riding Mountain field laboratory every few days from collection depots.
14. Hunters will be advised province-wide to immediately stop dressing a deer or elk and contact program staff if the lungs of the animal do not appear to be normal. Program staff shall attend the site and inspect the carcass. The advisement to hunters will be by means of a brochure and the annual Hunting Guide.

Projected Expenditure by Activity:

Newspaper ads	$ 2.0
Letters to hunters	$ 1.4
Check stations	$ 2.0
Freezers	$ 5.0
Carcass burial costs	$ 0.3
Seasonal Staff	$10.0
Transportation	$ 6.0
Misc.	$ 3.3
TOTAL	$30.0

Staffing:

1. Seasonal staff complement at Manitoba Conservation district offices shall be extended until the end of January. This will amount to approximately 12 seasonal staff weeks.
2. There will be ongoing permanent staff time expended. Namely, regional wildlife staff to plan and manage all activities, and district officer time to collect and handle samples.

Expected Outputs:

1. In the Riding Mountain area (GHAs 23/23A), up to 600 samples from hunter-killed elk and up to 600 samples from hunter-killed deer will be collected and transported to the Riding Mountain field laboratory.
2. In the Duck Mountain area (GHAs 18 - 18C), up to 150 samples from hunter-killed elk and up to 150 samples from hunter-killed deer will be collected and transported to the Riding Mountain field laboratory.

Issues and Concerns:

There may some difficulty in collecting a statistically sufficient number of deer samples from the Riding Mountain area.

Status Report Requirements:

Results to be incorporated into the annual Riding Mountain Field Lab. Report.

2002/03 Bovine TB Implementation Plan

Project Name: Hunter Recognition			
Approved Budget: $ 3.5	Partner Share:	Manitoba Conservation	$ 3.5
		Manitoba Agriculture and Food	$
		Parks Canada	$
		Canadian Food Inspection Agency	$
Project Managers: Dan Chranowski – Manitoba Conservation			

Objectives:

1. To recognize hunters who cooperate by submitting requested samples from elk and deer.

Rationale:

1. Providing hunters with a token of appreciation encourages participation in the program.
2. Contributors display the award and this advertises the program to other potential contributors.

Methods and Activities:

1. Hunter cooperator caps shall be purchased.
2. Hunters who contribute the requested samples may be provided with a cap at the time they submit a sample. Otherwise, hunters shall be advised that they may pick up a cap at a Manitoba Conservation office.
3. Alternative rewards that may be less costly shall be assessed for use in 2003/04.

Projected Expenditure by Activity:

Purchase of caps.	$ 3.5
TOTAL	$ 3.5

Staffing: (details on temporary staffing/Fee for Service Contracts/Permanent staff time commitments)

1. Permanent staff time to design and procure caps, and to distribute caps to cooperators from district and central offices.

Expected Outputs:

Up to 750 caps will be distributed.

Issues and Concerns:

None.

Status Report Requirements:

1. Report on the number of caps issued to cooperators.

2002/03 Bovine TB Implementation Plan

Project Name: Riding Mountain Lab Operation			
Approved Budget: $ 22.0	Partner Share:	Manitoba Conservation	$
		Manitoba Agriculture and Food	$ 10.0
		Parks Canada	$ 12.0
		Canadian Food Inspection Agency	$
Project Managers: Pat Rousseau – Parks Canada Dan Chranowski – Manitoba Conservation Terry Whiting – Manitoba Agriculture & Food			

Objectives:

1. To provide sample collection depot for wildlife samples.
2. To prepare, preserve and undertake gross visual examination of elk and deer samples.
3. To maintain a database of specified information for all samples submitted.
4. To store and ship samples to the Canadian Food Inspection Agency Laboratory in Ottawa, as required.

Rationale:

1. The lab. facility is essential to receive, prepare and screen all samples prior to submission to the CFIA lab.

Methods and Activities:

1. The lab facility will be maintained with a necropsy table, fume hood, staff safety equipment, tools, and sample preservation equipment and chemicals.
2. The existing Access database which includes information for all samples that have been processed to date will be updated as 2002/03 samples are processed.
3. The database will be made available to all participating agencies.
4. Hiring and maintaining a trained laboratory technician for minimum of 5 months annually – October 1 to March 31.

Projected Expenditure by Activity:

Lab equipment, supplies and safety equipment.	$ 1.0
Computer data management.	$ 1.0
Hydro, heat and telephone.	$ 3.0
Lab Tech salary.	$15.0
Vehicle costs.	$ 2.0
TOTAL	**$22.0**

Staffing: (details on temporary staffing/Fee for Service Contracts/Permanent staff time commitments)

Lab Tech for 6 month contract at $125/day = $15.0

Expected Outputs:

Current and accessible database for all samples.
Collection, processing, preservation and shipping of samples.
Red flag specimens of concern (lesions present) based on gross visual examination.

Issues and Concerns:

Maintenance of health and safety standards.

Status Report Requirements:

Final annual report.

2002/03 Bovine TB Implementation Plan

Project Name: Manitoba Vet Lab Operation			
Approved Budget: $ 5.0	Partner Share:	Manitoba Conservation	$
		Manitoba Agriculture and Food	$ 5.0
		Parks Canada	$
		Canadian Food Inspection Agency	$
Project Managers: Grant Spearman – Manitoba Agriculture & Food Terry Whiting – Manitoba Agriculture & Food			

Objectives:

1. To provide a sample collection depot for elk and deer samples that are submitted in the Winnipeg area.
2. To prepare, preserve and undertake gross visual examination of samples received.
3. To provide information to the RMNP database for all samples processed.
4. To store and ship samples to the Canadian Food Inspection Laboratory in Ottawa.

Rationale:

1. The lab. facility is essential to receive, prepare and screen samples that are submitted in the Winnipeg area from hunters who have harvested elk and deer in the Riding Mountain area prior to submission to the CFIA lab. Samples from hunters concerned about the health of their elk from other areas, such as the Interlake or Spruce Woods, will also be process in the lab.

Methods and Activities:

1. A protocol for receiving elk and deer samples submitted by Winnipeg-based hunters will be set up.
2. Billing will be to the fund at the same rate as comparable work for other clients, VSB Informational Manual June 1, 2002.
3. The database will be made available to all participating agencies.

Projected Expenditure by Activity:

Cost associated with handling up to 75 samples

Day case minimum, incineration, PCR – M. bovis @ ~$70.00 per case	$ 5.0
TOTAL	**$ 5.0**

Staffing: (details on temporary staffing/Fee for Service Contracts/Permanent staff time commitments)

Permanent staff time required to handle and process up to 75 elk and deer heads.

Expected Outputs:

Current and accessible data base for all samples regardless of origin.
Allows concerned hunters the assurance that the animal to be consumed has no evidence of tuberculosis.
Collection, processing , preservation and shipping of samples.
"Red Flagged" specimens of concern (lesions present), based on gross visual examination will be immediately available to the CFIA.

Issues and Concerns:

Health and safety of lab personnel is assured by SOP.
Slightly enhanced surveillance is provided to areas where TB has not yet been detected such as elk from the Interlake and Spruce Woods.

Status Report Requirements:

Year end report of results of samples analysis.
Enhanced fiscal accountability as the fund will be billed for services.

2002/03 Bovine TB Implementation Plan

Project Name: CFIA Analysis of Wild Animal Samples			
Approved Budget: $ 72.0	Partner Share:	Manitoba Conservation	$
		Manitoba Agriculture and Food	$
		Parks Canada	$
		Canadian Food Inspection Agency	$ 72.0
Project Managers: Blaine Thompson - Canadian Food Inspection Agency			

Objectives:

1. To analyze elk and deer tissue samples submitted by hunters and from road kills from the Riding Mountain and Duck Mountain areas for Bovine TB.

Rationale:

1. The CFIA lab has the facility and expertise to analyze the samples.

Methods and Activities:

CFIA is responsible for packaging and shipping of samples.

Elk

1. "Red Flagged" samples (tissue with lesions) from the Riding Mountain Field Lab and the Manitoba Vet Lab will be sent for culture.

Deer

2. "Red Flagged" samples from the Riding Mountain Field Lab and the Manitoba Vet Lab will be sent for culture.

Projected Expenditure by Activity:

Packaging/shipping	$ 1.1
Labour	$ 20.0
Histopathology (150@$50.00)	$ 7.5
Culture and PCR (100@$70.00)	$ 7.0
Identification (40@$910.00)**	$ 36.4
TOTAL	**$ 72.0**

** This item may be reduced if lab work stops at the PCR stage.

Staffing: (details on temporary staffing/Fee for Service Contracts/Permanent staff time commitments)

Contract staffing is required for the histopathology work.
Labour costs for lab work are included in the about cost estimates.

Expected Outputs:

All results recorded in CFIA project database.
Standard CFIA report.

Issues and Concerns:

The number of samples to be submitted is difficult to predict because hunter success is largely dictated by weather conditions.

Status Report Requirements:

Laboratory analysis report.

2002/03 Bovine TB Implementation Plan

Project Name: Livestock Locations and Inventory			
Approved Budget: $ 50.0	Partner Share:	Manitoba Conservation	$
		Manitoba Agriculture and Food	$
		Parks Canada	$
		Canadian Food Inspection Agency	$ 50.0
Project Managers: Blaine Thompson - Canadian Food Inspection Agency			

Objectives:

1. To develop an inventory of cattle, captive bison and captive elk herds and their numbers in the disease control zone adjacent to the periphery of Riding Mountain National Park (RMNP).

Rationale:

1. This will provide the CFIA locations of cattle operations to facilitate TB disease surveillance in the Riding Mountain area.
2. This will provide a data base of locations of cattle operations to facilitate research on farming practices through landowner contact that may impact cervid/livestock contact.

Methods and Activities:

1. Identify cattle, bison, and elk herds in the area specified above that may require testing as part of future ongoing surveillance of livestock for the RMNP area.
2. To collect the information from local RM Councils, the Biosphere Reserve Project, existing databases and producer associations.

   Note: This information may not be available from the Biosphere Reserve Project as a result of an agreement that the information collected about herd locations was to be property of the RMs.

Projected Expenditure by Activity:

1. Identify herds and herd sizes	$ 40.0
2. Transportation costs	$ 10.0
TOTAL	$ 50.0

The 2001/02 Implementation Plan projected costs of livestock inventory on a 5 km strip around the park. With the CFIA commitment to increase surveillance testing for a projected disease control zone, the need for accurate information on the herd inventory is immediate and much larger in scope. It is estimated that original cost estimate for this year will double from $25.0 to $50.0. This will accommodate the process of dealing with 1000 herds rather than 300 and all 1000 have to be documented this year.

Staffing:

(details on temporary staffing/Fee for Service Contracts/Permanent staff time commitments)

Expected Outputs:

A database of herds and herd sizes as a pre-requisite for future TB surveillance testing of livestock in the disease control zone around the park periphery.

Issues and Concerns:

None.

Status Report Requirements:

2002/03 Bovine TB Implementation Plan

Project Name: CFIA Testing of Cattle Herds			
Proposed Budget: $ 350.0	Partner Share:	Manitoba Conservation	$
		Manitoba Agriculture and Food	$
		Parks Canada	$
		Canadian Food Inspection Agency	$ 350.0
Project Managers: Blaine Thompson - Canadian Food Inspection Agency			

Objectives:

1. To identify and test all cattle, captive bison and captive elk herds in a disease control zone around the periphery of the Riding Mountain National Park to determine the prevalence of Bovine TB.

Rationale:

1. This project is being conducted as a special program in the Riding Mountain area to detect the disease that may exist on cattle operations.

Methods and Activities:

1. Testing will occur from the fall of 2002 through the winter of 2003.
2. Up to 300 cattle herds will be tested during this period; but exact volume remains subject to budget approval (similar levels of testing are proposed during each of the next two years). Testing at this level will continue until the TB rating is upgraded.
3. Cattle, captive bison and captive elk herds will be identified within the disease control zone by contacting local RM Councils, the Biosphere Reserve Project and existing data bases.
4. All animals older than one year of age will be tested.
5. Test days for each operation will be arranged.
6. Standard tuberculin testing will be conducted; the results will be read on a second visit.

Projected Expenditure by Activity:

Identify herds, arrange test days (based on 300 herds).	$ 75.0
Herd testing (based on 300 herds) staff costs.	$ 200.0
Transportation and supplies.	$ 75.0
TOTAL	$350.0*

There will also be additional costs due to the production of additional tuberculin.
*Subiect to budget approval.

Staffing: (details on temporary staffing/Fee for Service Contracts/Permanent staff time commitments)

This may require additional relief staffing on a short-term basis depending on other program demands.

Expected Outputs:

A standard report of data.

Issues and Concerns:

Inconvenience and cost to agricultural producers whose herds are tested.

Status Report Requirements:

Disease Prevention

2002/03 Bovine TB Implementation Plan

Project Name: Elk and Deer Population Management			
Approved Budget: $ Existing	Partner Share:	Manitoba Conservation	$ existing
		Manitoba Agriculture and Food	$
		Parks Canada	$
		Canadian Food Inspection Agency	$
Project Managers: Doug Pastuck, Dan Chranowski – Manitoba Conservation Marvin Miller – Parks Canada			

Objectives:

1. To manage the hunter harvest of elk to maintain the Riding Mountain area elk population at a lower than the historical average (the lower end of its historical range). Historical average population has been approximately 3500 (the population has ranged from 2500 to 5000). The intent is to a harvest elk at a level to reduce the population to approximately 2500 as quickly as possible. (NOTE: It must be recognized that actual harvest levels are affected by winter conditions.) The intent is to maintain the population at 2500 until a joint decision has been made to allow the population to recover to the historical level.
2. Population reduction planning will be directed mainly to the western portion of the Riding Mountain area where Bovine TB has been identified.
3. An increase in white-tailed deer harvest will also be introduced.

Rationale:

1. The disease has never been reported and maintained in a wild cervid population with densities currently reported in the Riding Mountain herds. Therefore, the density of elk and deer herd is not in itself an important factor in the transmission of the disease. The most likely explanation for the perpetuation of the disease in wild cervid herds the Riding Mountain area is the transmission of disease where elk and deer congregate at hay storage, supplemental feeding, intercept feeding, and illegal deer and elk baiting sites.
2. A moderate general reduction in the herd size and substantial reductions in areas where the disease has been reported will reduce the actual numbers of elk and may assist in reducing the extent of contact between elk at feed

storage and feeding sites. This should reduce the chances of disease transmission.

3. Cervid population management will complement several initiatives to reduce contact between cervids and cattle: barrier fences at hay storage sites; and new regulations and enforcement strategies to stop cervid feeding and illegal baiting sites.
4. The eradication of the Riding Mountain regional elk and deer herds is not an option the task group is exploring. Logistically it would be virtually impossible to eradicate approximately 12,000 wild cervids. Any attempt to eradicate the herds would have a great and wide ranging impact on the ecosystem integrity by affecting many species such as the gray wolf, coyotes, black bears which rely on cervid populations as food sources. It would have a significant impact on the provincial and local economy by reducing revenues from hunting licence sales and curtailing ecotourism and outfitting operations that are supported by the elk and deer resource. It would prevent First Nations from harvesting a valuable cultural resource.
5. The solutions that are identified in this plan will address the core of the problem, wildlife-livestock interaction.

Methods and Activities:

1. In January 2002, Manitoba Conservation approved an increase in the number of Elk Hunting Licences available through the Big Game Draw for the 2002/03 elk hunting seasons in GHAs 23 and 23A, as follows:

Season	Area/Date	2001/2002 Licence/Tags	Percent Increase	2002/03 Licence tags
Rifle	23 Dec	350/175		480/240
	23 Early Jan	400/200		540/270
	23 Late Jan	360/180		500/250
	23A Dec	240/120		320/160
	23A Early Jan	250/125		340/177
	23A Late Jan	200/100		280/140
Rifle	All areas and dates	1800/900	36.6	2460/1230
Archery	23/23A Aug to Nov	260/260	34.6	350/350
Landowner	23/23A Aug to Nov	330/330	36.4	450/450

2. In July 2002, in an effort to protect Manitoba's trade interests by demonstrating to the USDA that Manitoba is taking aggressive measures to address the bovine TB situation in the Riding Mountain area, additional means of harvesting more elk in 2002 were approved by Manitoba Conservation. Normally, applicants drawn for the rifle and landowner seasons receive ONE tag for every TWO licences issued. For the 2002/03 season, hunters will receive ONE tag for every licence issued. Therefore, there will be over 1200 additional elk tags that may be filled.
3. Elk population data from the December aerial survey to determine elk sex and age ratios, and the February aerial survey to estimate population size, will be analyzed.
4. Adjustments to elk hunting seasons dates, bag limits and number of licences available in the Big Game and Landowner draws will be recommended by Manitoba Conservation during the 2003/04 hunting regulation review process (this process occurs from August 2002 to January 2003 - in this way the seasons are established in time so Big Game Draw applications can be available to hunters by March 2003 and so the 2003 Hunting Guide can be printed by April 2003.)

   Various options are being considered, which may include:
   - additional licences,
   - more hunting pressure in the western portion of the Riding Mountain region,
   - more hunting pressure on the bull segment of the herd, and
   - increasing hunter party size from two.
5. If there is an indication that the deer population has increased to above average levels, or if deer depredation incidents increase measurably (based on District Occurrence Reports and MCIC claims), adjustments to deer harvest strategies will be recommended during the 2002/03 annual hunting regulation review process. The most likely strategy being considered is the introduction of a second deer hunting licence (antlerless).

Projected Expenditure by Activity:

This is part of the annual hunting regulations review process conducted by Manitoba Conservation.

Staffing: (details on temporary staffing/Fee for Service Contracts/Permanent staff time commitments)

This is part of the annual hunting regulations review process conducted by Manitoba Conservation.

Expected Outputs:

1. ***Recommendations For Change*** for the 2003 hunting seasons will be presented to Manitoba Conservation Department Executive for approval by January 2003.
2. Approved changes will be described in the annual ***Hunting Guide*** (April 2003) and the ***Big Game Draw*** applications (March 2003).

Issues and Concerns:

1. Reductions in hunting opportunity after the population is reduced may cause some hunters and outfitters to criticize the government.
2. This strategy will not satisfy some agricultural producers in the Riding Mountain area who have demanded the eradication of the Riding Mountain elk herd.
3. First Nations near the park may be concerned about increased harvest and reductions of wildlife populations in the Riding Mountain region.

Status Report Requirements:

1. The hunter harvest of elk and deer is reported annually in Manitoba Conservation's Hunter Questionnaire Report.

2002/03 Bovine TB Implementation Plan

Project Name: Public Education			
Approved Budget: $ 18.0	Partner Share:	Manitoba Conservation	$ 5.5
		Manitoba Agriculture and Food	$ 2.5
		Parks Canada	$10.0
		Canadian Food Inspection Agency	$
Project Managers: Marvin Miller – Parks Canada Dan Chranowski/Doug Pastuck – Manitoba Conservation Terry Whiting – Manitoba Agriculture & Food			

Objectives:

1. To provide credible information to the public about the status of TB in the Riding Mountain area, details of TB management programs, and the impact of TB on the cattle industry and wildlife.
2. To establish a partnership with the Riding Mountain Biosphere Reserve and to support its role as a source of information for area landowners and other stakeholders.

Rationale:

1. It is essential to provide the public with information about the impact of the disease, both on agriculture and wildlife.
2. Agriculture producers should be become aware of farming practices that are contributing to disease spread.
3. Hunters and area residents should be informed about new regulations that prohibit the use of bait while hunting elk and deer and the feeding of elk and deer.
4. Hunters and landowners should be informed of ways they can contribute to the objective of stopping the transmission of the disease.

Methods and Activities:

1. Information about Bovine TB from all sources including CFIA, Manitoba Conservation, Parks Canada, and various field studies and research will be used in developing a website and brochures.
2. A brochure will be developed. Target groups are area agricultural producers, hunters and the general public.
3. Communication meetings with landowners, municipalities and hunters will occur.
4. The Manitoba Cattle Producers Association will actively participate in the communication program by placing articles in local newspapers and producer periodicals, by facilitating community information meetings.
5. The information presented will include details of the status of TB in the Riding Mountain area, TB management programs and methods producers can use to reduce the risk of disease spread.
6. The existence of the website and the availability of the brochures and communication meetings will be advertised.

Projected Expenditure by Activity:

Website development	$ 2.0
Brochure development	$ 7.0
Public meetings and display	$ 9.0
TOTAL	**$18.0**

Staffing: (details on temporary staffing/Fee for Service Contracts/Permanent staff time commitments)

Biosphere Reserve will be contracted to undertake the completion of the website which was initiated in 2001/02.
Ken Kingdon (RMNP) will take the lead in developing the brochures in cooperation with Christine Tymchak (MC).

Expected Outputs:

Finalized website.
Brochure.

Enhanced communication with municipalities, producers, local residents, and hunters. Provided sufficient funding and staff time is available a display will be developed.

Issues and Concerns:

The website will be produced as an objective presentation of information.

Status Report Requirements:

The website will be produced as an objective presentation of information.

2002/03 Bovine TB Implementation Plan

Project Name: Barrier (Hay Protection) Fence Construction			
Approved Budget: $ 90.0	Partner Share:	Manitoba Conservation	$ 30.0
		Manitoba Agriculture and Food	$ 60.0
		Parks Canada	$
		Canadian Food Inspection Agency	$
Project Managers: Dan Chranowski - Manitoba Conservation Pat Rousseau - Parks Canada			

Objectives:

1. To reduce contact between domestic cattle and wild cervids by supplying material to landowners for the construction of barriers that exclude cervids from either stored hay yards or cattle feeding sites.
2. To construct approximately 30 barrier fences to encompass 3 to 5 acre sites.

Rationale:

1. The most likely explanation for the perpetuation of the disease in the Riding Mountain area is the transmission of disease where elk and deer congregate at hay storage, supplemental feeding, intercept feeding, and illegal deer and elk baiting sites.
2. Barrier fences will be constructed around hay stack yard on a priority basis. The highest priority sites are those where cervid use is highest, where the disease has been detected since 1991, and the area nearest the park boundary.
3. Fencing these sites will have the greatest effect in reducing the chances of disease transmission.

Methods and Activities:

1. Materials for barrier fences will be supplied to landowners that will be selected based on established criteria.
2. Barrier fences, 10 feet in height, will be constructed in areas where there is most concern about the transmission of TB between cattle and cervids. These areas currently are the Onanole, Rossburn and Grandview areas.

3. Within these areas, sites will be identified where cattle and cervids are known to interact. The specific criteria used will be:
    - Number of MCIC claims
    - Number of complaints to Manitoba Conservation
    - Distance to the park boundary

   Consideration will be given to supplying materials for up to one barrier fence to an elk farm in the Riding Mountain area to protect a hay storage site.
4. The material supplied to selected landowners will include 14 foot posts, 8 foot game fencing, hardware and material for corner bracing, and steel panels for gates.
5. A field person shall be hired by Manitoba Conservation to coordinate the deployment of fencing materials, dig post holes and install posts. Riding Mountain National Park staff will be assigned to each site where posts have been installed for at least ½ a day to provide the landowner with advice on the installation of wire and final construction of the fence. The landowner will be responsible for completing the fence, with the assistance of National Park staff, once the posts are installed.
6. An evaluation will be conducted by means of a brief telephone questionnaire with recipients of barrier fences, to determine if the fences were successful in stopping elk from concentrating at hay storage sites. Adjacent landowners will also be asked if they have observed an increase in elk use of their hay storage sites or increased activity on their property.

Projected Expenditure by Activity:

There are 53 rolls of wire and 1441 posts on hand from last year.

53 rolls of wire will use 975 of the 1441 posts (**15 hay yards**) - 466 posts remain.

25 rolls of wire @ $475 to be purchased and used with the 466 remaining posts from last year (**7 hay yards**)	$ 12.0

8 additional hay yards require:

28 rolls of wire @ $475	$ 13.5
520 posts @ $14	$ 7.5

Posts and wire on hand and purchased as outlined above is sufficient for 30 yards. The following additional funds will be expended to complete the installation of 30 the fences.

Hardware for 30 yards @ $250 per yard	$ 7.5
Post hole digger for 30 yards @ $265 per yard	$ 8.0
Posts pushing for 30 yards @ $265 per yard	$ 8.0
(Gates on hand sufficient for 16.5 yards)	
Gates purchased for 14.5 yards = 58 @ $70.	$ 4.0
Transportation	$ 5.0
Misc.	$ 4.0
Seasonal staff time	$20.0
TOTAL	**$90.0**

Estimated number of fences will be approximately 30 (calculated as follows)

- 3.5 rolls per fence
- Number of rolls of wire should amount to 106 (53 rolls carry-over from 2001/02 + 53 rolls to be purchased this year)
- Estimated number of fences to be installed 106/3.5 = 30

Staffing: (details on temporary staffing/Fee for Service Contracts/Permanent staff time commitments)

Seasonal staff will be hired for 16 weeks.
Permanent staff time will be expended to select fence sites, procure materials, contacting landowners and executing agreements with landowners who participate.

Expected Outputs:

Installation of up to 30 barrier fences.
Reduction in the level of interaction between cattle and wild cervids.
A reduction in the risk of TB transmission between cattle and wild cervids.
A reduction in the risk of TB transmission between wild cervids.

Issues and Concerns:

Landowner reluctance to participate because there is time and labour required on their part.

Status Report Requirements:

The number, locations and costs of each fence shall be reported in the program final status report.

2002/03 Bovine TB Implementation Plan

Project Name: Regulation of Cervid Feeding and Baiting			
Approved Budget: $ Existing	Partner Share:	Manitoba Conservation	$ existing
		Manitoba Agriculture and Food	$
		Parks Canada	$
		Canadian Food Inspection Agency	$
Project Managers: Doug Pastuck/Jack Dean – Manitoba Conservation			

Objectives:

To reduce interaction between cervids and cattle the following regulatory and enforcement actions will be introduced:

- regulations to reduce the feeding of elk and deer on lands adjacent to the Riding Mountain, and
- stricter regulations and aggressive enforcement to stop the baiting of elk and deer by hunters.

Rationale:

1. The most likely explanation for the perpetuation of the disease in the Riding Mountain area is the transmission of disease where elk and deer congregate at hay storage, supplemental feeding, intercept feeding, and illegal deer and elk baiting sites.
2. To complement the barrier fence program, Manitoba Conservation is introducing stricter regulations which govern baiting and feeding of cervids.
3. Stopping these activities will have a significant effect in reducing the chances of disease transmission.

Methods and Activities:

1. Standard processes for developing regulation changes shall be undertaken by Manitoba Conservation.
2. Information about this initiative will be provided to the general public and stakeholders by means of letters, posters, hand-outs and personal contact.

Projected Expenditure by Activity:

Existing budgets.

Staffing: (details on temporary staffing/Fee for Service Contracts/Permanent staff time commitments)

Existing staff.

Expected Outputs:

A new regulation concerning attracting cervids with baits and feed.

Issues and Concerns:

1. Some hunters and outfitters will criticize Manitoba Conservation because hunting elk and deer will require more effort.
2. Some hunters, outfitters, and area residents will criticize Manitoba Conservation because the prohibition of feeding may result in lower cervid densities in areas where feeding currently occurs. Criticism will be more pronounced in years when severe winter conditions prevail.
3. Livestock producers who are also outfitters may present arguments against restrictions on baiting and feeding of cervids because of the benefits of these activities to their outfitting operations.

Status Report Requirements:

Number of charges and warnings resulting from this new regulation, and a report from district offices regarding observed reductions in the use of baiting.

2002/03 Bovine TB Implementation Plan

Project Name: Natural Forage Renewal in RMNP			
Approved Budget: $ Existing $20.0+	Partner Share:	Manitoba Conservation	$
		Manitoba Agriculture and Food	$
		Canadian Animal Identification Agency	$
		Parks Canada	$ existing
		Canadian Food Inspection Agency	$
Project Managers: Marvin Miller - Parks Canada			

Objectives:

1. To maintain and restore the frequency and extent of historical fire within RMNP.

Rationale:

Restoration of RMNP's fire regime will ensure healthy and diverse habitats to which elk and other wildlife populations will respond.

Methods and Activities:

1. Fire restoration targets will be achieved mainly by prescribed burning in the spring and fall.
2. Prescribed burns will be planned a year in advance of the actual burn project. Fires will be lit only when prescribed conditions are met. These conditions are designed to ensure that the fire can be controlled and contained within defined boundaries.
3. Prescribed burning plans will be subjected to review by fire experts prior to approval.
4. Professional overhead personnel, fire fighters, and helicopters will be used to implement the burns.
5. Wild fires may be to burn unimpeded in circumstances where they pose no risk to the public safety, health or property.

Projected Expenditure by Activity:

The costs of prescribed burns ranges from $50.00 to $100.00 per ha. The annual cost will be dictated by the amount of land that can be burned.

Staffing: (details on temporary staffing/Fee for Service Contracts/Permanent staff time commitments)

Permanent staff time for program planning and delivery.

Expected Outputs:

1. The initial target is to burn 50% of the historic fire cycle which amounts to an average of 5,400 ha annually or about 1.8% of the park area.
2. Specific targets will be to annually burn between 750 and 1500 ha of grassland and 1,660 to 10,000 ha of aspen parkland.

Issues and Concerns:

1. Prescribed burning is not without risks. Although every effort is made through the planning and implementation phases to control the fires, there is a risk of escaped fires. Weather is the major influence on fire behavior and it can change quickly. Contingency plans are predetermined to deal with an escaped fire.
2. Smoke management is also a concern where smoke from prescribed fires could impact the health and safety of the public.
3. Dry conditions needed to carry out the burns. In some years no land within the park will be burned because of excessive moisture. Therefore, during dry years, additional area may be burned.

Status Report Requirements:

An annual report will be prepared indicating the locations and amounts of land subjected to prescribed burns and natural burns.

Research

2002/03 Bovine TB Implementation Plan

Project Name: Elk Population Monitoring			
Approved Budget:		Manitoba Conservation	$ existing
$ 2.5	Partner	Manitoba Agriculture and Food	$ 2.5
+ $15.0 from Parks	Share:	Parks Canada	$
Canada (existing)		Canadian Food Inspection Agency	$
Project Managers: Pat Rousseau – Parks Canada Dan Chranowski/Brian Knudsen – Manitoba Conservation			

Objectives:

1. To estimate the population size of the Riding Mountain elk herd.
2. To determine the bull:cow and calf:cow ratios during the late fall.

Rationale:

1. Elk population monitoring will continue to allow Parks Canada and Manitoba Conservation to evaluate the effects of hunter harvest strategies and to determine when population goals have been achieved.

Methods and Activities:

Aerial Population Survey

1. The annual elk population survey that has been conducted by Parks Canada since the 1970s to determine a late winter population estimate for elk and moose will be continued. The survey will consisted of flying fixed-wing aircraft along prescribed north/south transect lines. The transects have been set at 1 mile intervals (25% sample), with observers searching for elk and moose in a $\frac{1}{4}$ mile sample strip.

Classification Aerial Survey

1. Areas known to support high densities of elk within the Riding Mountain National Park will be systematically searched using fixed-wing aircraft.
2. A sample of at least 800 elk will be classified according to following categories: adult male, adult female, and calf of the year.

3. The data will be analyzed and the following ratios will be calculated: calf:cow and bull:cow.
4. The herd composition will be compared to the scientific literature to determine if herd composition is appropriate.
5. Hunting regulations, particularly bag limits, may be altered as required.

Projected Expenditure by Activity:

Aircraft time and staff expenses.	$ Existing($15.0) + $2.5
TOTAL	**$Existing($15.0) + $2.5**

Staffing: (details on temporary staffing/Fee for Service Contracts/Permanent staff time commitments)

Permanent staff time (approximately 30 staff days) in Parks Canada and as required in Manitoba Conservation will be required to conduct the survey.

Expected Outputs:

A report indicating the elk population estimate and herd composition. Information collected on deer relative abundance and distribution will also be reported.

Issues and Concerns:

None.

Status Report Requirements:

Annual survey report.

2002/03 Bovine TB Implementation Plan

Project Name: Elk Ecological Study			
Approved Budget: $ 125.5 Projected cost $128.0	Partner Share:	Manitoba Conservation	$ 25.0
		Manitoba Agriculture and Food	$ 2.5
		Parks Canada	$ 98.0
		Canadian Food Inspection Agency	$
Project Managers: Doug Bergeson/Pat Rousseau – Parks Canada Agency Contacts: Ken Rebizant/Dan Chranowski – Manitoba Conservation Terry Whiting – Manitoba Agriculture and Food Contractor: Ryan Brook – Ph.D. student			

Objectives:

1. To document the general movements and behaviour of elk in the Riding Mountain herd that may contribute to the potential for transmission of Bovine TB from cattle to elk, from one elk to another and from elk to cattle. The data collected will determine:
   - Elk use of land that supports cattle operations, and particularly those lands with standing crops, stored forage and cattle feed lots.
   - The level of interaction between individual groups (sub-populations) of elk within the Riding Mountain area.
   - Movements from core range use areas within the Riding Mountain area to other locations, particularly the Duck Mountain (these movements may be one-time dispersal or periodic extensions of range use).
   - Habitat use within the national park, and on private and Crown land outside the park on a weekly and seasonal basis.
   - Weekly movements within the core range use area and important travel routes.
   - Seasonal core range use areas and travel corridors.
2. To document detailed movements of selected elk groups. The data collected will determine:
   - The location, extent and time-of-day of interaction between elk and cattle during the summer/fall cattle pasturing period, and during the winter cattle feeding period (feed lots).
   - The location, extent and time-of-day of use of stored domestic forage by elk.

- Hourly and daily movements between foraging and bedding areas.
- The proportion of time elk use provincial lands (Crown and private) and federal park lands as bedding areas, foraging areas and travel routes.

3. To integrate and analyze data concerning elk use of the landscape and agricultural practices, with the intent of developing recommendations concerning elk management and agricultural practices. This information will be fundamental meeting to Program's goal of restoring Bovine TB-free status in Manitoba.

Rationale:

1. This research has been initiated largely in response to the concerns by natural resource managers, cattle producers, area residents, park users and other interest groups over the impacts of Bovine TB in the Riding Mountain area.
2. There is limited information on the distribution, movements and behaviour of elk within the park, along the park boundary and on agricultural lands outside the park.
3. The delineation of elk seasonal home ranges and movement patterns will identify the time of year when elk-cattle interactions are most common and the TB risk is highest. Based on the extent of documented elk movements the risk of the disease being introduced to other elk herds such as the Duck Mountain and Spruce Woods can be evaluated.
4. This information will be important in making inter-agency resource management decision and in developing farm management strategies that will reduce disease transmission opportunities.

Methods and Activities:

Elk Capture

1. The intent is to retain approximately 50 elk with VHF radio-telemetry collars.
2. Up to 15 elk will be captured by helicopter net-guns, and fitted with VHF collars. Locations of capture will be determined just prior to capture operation. When determining capture locations, priority will be given to areas where:
    - Mortality of existing collared animals
    - There have been new confirmed cases of TB in elk, deer or cattle.
3. A minimum of 4 mature female elk will be by helicopter net-guns, and fitted with GPS collars in the Rossburn-Grandview capture zone.

General Movements

1. Collared elk will be monitored weekly from fixed-wing aircraft. Ground monitoring with hand-held antennae will supplement aerial re-location data.
2. The coordinates of capture and relocation sites will be entered into a Global Positioning System (GPS) unit. The data will be downloaded into a Geographical Information System (GIS) database.
3. Land use, land ownership and habitat type will be identified for the study area. The locations of cattle herds, cattle feeding and watering sites, and pasture lands within selected areas of the study area will be documented. The data will be entered into the GIS database as overlays.

Detailed Movements (Rossburn/Grandview Capture Area)

1. GPS collars will be programmed to record the locations of each GPS-collared elk on a regular and frequent schedule (ie. hourly basis).
2. The GPS collar data will be downloaded into a database during bi-weekly or monthly flights and then into a GIS database.

GIS Analysis

1. The following information will be documented on GIS layers - vegetation cover, elevation, timing of green up, crops types, snow conditions, temperatures, roads and other land use and environmental data that may affect elk habitat use.

Local Knowledge (see Project Outline - **Factors Affecting Elk/Cattle Interaction**)

1. Interviews will be conducted with local people, Manitoba Conservation and Parks Canada staff to map their knowledge of elk movements, and interactions with cattle.
2. Questionnaires will be sent to landowners adjacent to the National Park to determine concerns and knowledge about cattle/cervid interactions and the risks of TB transmission.

Projected Expenditure by Activity:

Ph.D. Graduate student support.	$ 19.0
VHF 15 @ $0.4	$ 6.0
GPS collars 4 @ $5.0	$ 20.0
Elk capture. 19 @ $0.9	$ 18.0
Aircraft contract. 8 hr/wk x 45 weeks = 360 @ $0.175	$ 63.0
Vehicle mileage.	$ 2.0
TOTAL	**$128.0**

This exceeds the available funding by $2.5

Staffing: (details on temporary staffing/Fee for Service Contracts/Permanent staff time commitments)

A Fee for Service Contract will be used to support the Ph.D. Graduate student.
Parks Canada, Manitoba Conservation and Manitoba Agriculture and Food will lead project direction.
Parks Canada will take the lead in administering and coordinating the project.
Permanent staff from these agencies will also provide field support during elk capture, aerial monitoring, and review status and final reports.

Expected Outputs:

Annual status reports.
Maps of elk distribution, movements and dispersal on a monthly basis.
Maps of high cattle/elk conflict areas and areas of high local concern about Bovine TB transmission.
Final report and Ph.D. thesis.
Management recommendations for cattle producers and wildlife managers to minimize the risk of disease transmission.
A comprehensive elk management plan, prepared by Manitoba Conservation and Parks Canada, which will incorporate the results and conclusions of this study.

Issues and Concerns:

Recognition of the interests of each agency while allowing the study leader to use expertise and initiative.

Status Report Requirements:

See " Expected Outputs and Products".

2002/03 Bovine TB Implementation Plan

Project Name: Factors Affecting Cervid/Cattle Interaction			
Approved Budget: $ 5.0	Partner Share:	Manitoba Conservation	$
		Manitoba Agriculture and Food	$ 5.0
		Parks Canada	$
		Canadian Food Inspection Agency	$
Project Managers: Terry Whiting - Manitoba Agriculture and Food Contractor: Ryan Brook - Ph.D. Candidate			

Objectives:

1. To examine the micro-ecosystem which facilitates a high level of contact between free ranging cervids and cattle.
2. To examine farm management practices associated with the presence of elk and deer at:
   - Feeders used by cattle
   - Feed storage areas
   - Salt licks
3. To measure the strength of association between management practices and the presence of elk and deer.
4. To estimate the proportion of elk and deer depredation (damage) at haystacks and contact with cattle that may be mitigated by alternative farming practices

Rationale:

1. Using local knowledge from this study and scientific data from the elk ecological study, a comprehensive understanding can be obtained regarding elk and deer ecology, human concerns, and their relationships.
2. This information will provide a better understanding of the factors that influence Bovine TB occurrences and movement across the landscape.

Methods and Activities:

1. Data from other studies, specifically Project Outlines: **Livestock Locations and Inventory** will be incorporated into a risk of contact model.
2. A sensitivity analysis of the demographic, ecological and other risk factors for high contact with cattle will be completed by a combination of mail-out surveys and direct investigation of farm-sites.
3. Risk factors for prediction of claims for hay stack damage and high cattle contact will be spatially and temporally stratified.

Projected Expenditure by Activity:

1. Transportation and supplies related to direct investigation of 45 to 60 farms to document ecosystem factors and farm management practices

TOTAL **$ 5.0**

$15.0 was advanced to the project from program funds in 2001/02.

Staffing: (details on temporary staffing/Fee for Service Contracts/Permanent staff time commitments)

Regular permanent staff will spent time on project delivery.
Ryan Brook will take the lead in undertaking farm interviews, data analysis and report production.

Expected Outputs:

Preliminary examination of cow-cervid interface in Western Manitoba.
Identification of intervention strategies to minimize contact.
Identification of approximate proportion of cow-cervid interaction, which could be mitigated by affordable on-farm management interventions.

Activity to date:

- Mail-out survey of 4220 questionnaires. Approximately 1300 returns have been received and more are expected.

STEP student is entering the returns data.

Issues and Concerns:

The initiation of the second part of the study has been delayed until the inventory of cattle operations was completed to allow for a sampling frame from which to randomly draw the farms selected for farm-site evaluations.
On-farm interviews and farm-site evaluation will be completed in the winter, both to facilitate producer participation and co-operation, and to establish the actual methods of cattle feeding and hay storage.

Status Report Requirements:

Interim report of mail-out questionnaire – summer 2003.
Final Report/Account Settlement December 2003
Paper submission to a peer reviewed Journal Fall 2003-Spring 2004

2002/03 Bovine TB Implementation Plan

Project Name: Surveillance of Other Species for TB			
Approved Budget: $ 9.5	Partner Share:	Manitoba Conservation	$ 6.0
		Manitoba Agriculture and Food	$ 3.5
		Parks Canada	$
		Canadian Food Inspection Agency	$
Project Managers: Terry Whiting – Manitoba Agriculture & Food Pat Rousseau – Parks Canada Dan Chranowski – Manitoba Conservation			

Objectives:

1. To determine if Bovine TB infection exists in other species which may be functioning as a reservoir for the disease.
2. To concentrate the surveillance in the Grandview, Rossburn and Onanole areas.
3. To determine if other areas disease range by undertaking DNA analysis of wolf scats from the Riding Mountain area.

Rationale:

1. Although it is believed that there is an ongoing low prevalence (<1% overall, but with higher prevalence in the western portion of the region) of Bovine TB in the Riding Mountain elk population, the possibility that there is a unidentified vector of this disease in the area is still a possibility. If this is the case, identifying this vector is essential before action can be taken.

Methods and Activities:

1. Trappers in the Duck Mountain will be asked by letter to supply the carcasses of up to 60 coyotes for examination.
2. The services of a hunter/trapper will be secured to collect the carcasses of 200 Richardson's ground squirrels (100 from each of the Grandview and Rossburn areas).

3. Samples will undergo preliminary processing in the Riding Mountain Field Laboratory and/or the Manitoba Vet Lab prior to samples being submitted to the CFIA Laboratory in Ottawa for final analysis.
4. The wolf scat collection (75 summer scats) project in the Riding Mountain area will undergo evaluation for the presence of Bovine TB.

Projected Expenditure by Activity:

Hunter/trapper - Fee for Service	$ 3.5
Wolf scat analysis	$ 6.0
TOTAL	$9.5

Staffing: (details on temporary staffing/Fee for Service Contracts/Permanent staff time commitments)

Fee for Service Contract for a hunter/trapper.

Expected Outputs:

Up to 350 samples of species other than cervids for laboratory analysis to determine the Bovine TB infection rate.

Issues and Concerns:

None.

Status Report Requirements:

Report indicating the prevalence of Bovine TB in these species.

2002/03 Bovine TB Implementation Plan

Project Name: Relationship of Infected Elk – DNA Analysis			
Approved Budget: $ 0.5	Partner Share:	Manitoba Conservation	$ 0.5
		Manitoba Agriculture and Food	$
		Parks Canada	$
		Canadian Food Inspection Agency	$
Project Managers: Pat Rousseau – Parks Canada Doug Pastuck – Manitoba Conservation			

Objectives:

1. To determine the genetic linkage of elk which have been confirmed to be infected with Bovine TB in the Riding Mountain area.

Rationale:

1. The genetic relationship of infected animals will provide an additional indicator concerning the extent of the disease's dispersion in the area. If infected animals are genetically related, it may indicate that the infection is localized, and, if infected animals are not related, it could indicate a wider ranging infection.

Methods and Activities:

1. If any elk are confirmed to be infected in 2002/03, from the three areas where the infection has previously occurred (Onanole, Rossburn and Grandview), tissue samples will be submitted to Dr. Paul Wilson for DNA analysis.

Projected Expenditure by Activity:

Five additional elk from 2002/03 @ $80.00 ea.	$ 0.5
TOTAL	$0.5

Staffing: (details on temporary staffing/Fee for Service Contracts/Permanent staff time commitments)

Fee for Service Contract for Dr. Wilson to analyze tissue samples.

Expected Outputs:

A laboratory analysis report from Dr. Wilson of Trent University.

Issues and Concerns:

None.

Status Report Requirements:

Laboratory analysis report.

Disease Control

2002/03 Bovine TB Implementation Plan

Project Name: Tagging and Tracing Cattle			
Approved Budget: $ 7.5	Partner Share:	Manitoba Conservation	$
		Manitoba Agriculture and Food	$ 7.5
		Canadian Animal Identification Agency	$65.0
		Parks Canada	$
		Canadian Food Inspection Agency	$
Project Managers: Terry Whiting - Manitoba Agriculture & Food			

Objectives:

To describe local cattle movements within and exiting from the Riding Mountain ecosystem.

Rationale:

Enhanced tracking of beef and dairy cattle in the area will provide information on the livestock population and its movement in the Riding Mountain ecosystem. This will provide useful documentation of the history of individual animals if Bovine TB or other diseases of domestic livestock is detected in the area.

Methods and Activities:

1. Canadian Cattle Identification Agency (CCIA) has initiated a project to electronically identify and track all of the cows in the Riding Mountain ecosystem.
2. Radio frequency identification (RFID) tags are to be provided at no charge for the cows of those producers in the specified project area. This is part of a larger national trial of RFID tags and any producer can participate if they choose to purchase the tags.
3. In order for the Riding Mountain ecosystem trial to work as anticipated there must be extensive tracking of the animals. For the tracking of the animals to be efficient and work well there will have to be scanners purchased to be put out into the field (such places as veterinary district offices, auction markets, dead stock removal and livestock haulers).

Projected Expenditure by Activity:

Purchase of Readers (MA&F)	$ 7.5
TOTAL	**$ 7.5**

In addition to funds in the amount of $7.5 directly from the Bovine TB Management Program, $65.0 will be expended by the Canadian Animal Identification Agency (CCIA) and MA&F as follows:

Purchase of RFID Tags (25,000) (CCIA)	$ 50.0
Communications and Promotion (MA&F/CCIA)	$ 15.0
TOTAL	**$65.0**

Staffing: (details on temporary staffing/Fee for Service Contracts/Permanent staff time commitments)

No new staff is required.
Livestock specialists and veterinarians within MA&F, and the infrastructure of the CCIA and MCPA will provide the extension and field support for this program.

Expected Outputs:

1. Evaluation of the animal movement patterns of beef and dairy cattle in the Riding Mountain ecosystem compared to the larger national project.
2. Evaluation of the utility of the RFID tags in Manitoba.

Issues and Concerns:

1. Communication with MA&F regional directors to facilitate the use of in-house staff commitment to the project.

Status Report Requirements:

Data will be evaluated by the CCIA as a part of the national initiative.